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Jewell Meadows Wildlife Area

Long Range Management Plan

Oregon Department of Fish and Wildlife

December 1993

OREGON
Fish & Wildlife

Jewell Meadows Wildlife Area
Long Range Management Plan

Prepared by

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Purpose and Need

The purpose of the Jewell Meadows Wildlife Area is to enhance populations of Roosevelt elk, black-tailed deer, and other native wildlife. The Fishhawk Tract is primarily an area for large numbers of people to observe, photograph, and study wildlife. To protect the animals from disturbance and create conditions desirable for observation and study, the areas posted as refuge are closed to hunting and all other public access. The Beneke and Humbug tracts have been developed as wintering areas for elk and other wildlife and are currently open to some hunting during authorized seasons. This addition to winter range acreage is instrumental in increasing the elk carrying capacity and creating more consumptive and non-consumptive use, while being compatible with adjacent land uses.

Goals

1. Provide a diverse wildlife habitat by creating a mix of ponds, enhanced wetlands, farmed pastures, and managed forested areas, combined with maintaining existing native plant species habitat, where possible.
2. Provide public viewing of wildlife with an emphasis on Roosevelt elk in their natural habitat.
3. Keep management of the Area's elk population compatible with surrounding land uses to minimize elk damage.
4. Manage resident elk populations by trapping and transplanting or by permit hunting at a level to keep compatible with area objectives.

Objectives

1. Provide diverse habitat for up to 150 Roosevelt elk on the Fishhawk Tract, 250 elk on the Beneke Track, and 50 elk on the Humbug Tract. The minimum bull to cow ratios will be maintained at a level consistent with the surrounding big game management unit or the statewide elk management plan.
2. Provide year round viewing and educational opportunities for the public on the Fishhawk Track by creating and maintaining public viewing and informational areas.
3. Maintain, or improve, 550 acres of pasture land, 525 acres of forest land, and 6 miles of stream riparian habitat for native wildlife.

Acquisition History

The project was initiated in 1969 with the purchase of 183.1 acres from Glenwood Engbretson. This is the eastern-most portion of the Fishhawk Tract. In 1971, 111.9 acres were purchased from (east to west, respectively) E.V. Epsey 1.9 acres, Guy Olsen 38 acres, and A.E. Soderback 72 acres. These four acquisitions form what is now known as the Refuge, or Fishhawk Track, and were purchased with federal Land and Water Conservation funds.

A subsequent purchase of 672.96 acres, also with L&W funds, from Ernest Nickel and Frank Baskens was made in 1973. This area is known as the Beneke Tract.

The Humbug Tract was acquired in 1976 from Ed Wilson with L&W funds. This 155 acre area completes the Jewell Meadows Wildlife Area.

See Appendix A for acquisition details.

Description and Environment

Location

Jewell Meadows Wildlife Area is in three separate parcels within 7.5 air miles of one another. The area is located about 65 miles northwest of Portland, Oregon, via U.S. Highway 26 and State Highway 202 in Clatsop County (Figure 1). The Fishhawk Tract, located 1.5 miles west of Jewell, Oregon, consists of 334.9 acres in T.6N, R.7W. Elevations range from 500-700 feet above sea level. The Beneke Tract is located immediately north of Jewell. It consists of 672.96 acres in T.5N and 6N, R.7W and 8W. The Humbug Tract is located 1/2 mile north of Elsie, Oregon, in T5N, R7W and 8W. These 155 acres average 500 feet above sea level.

Climate

The wildlife tracts are in close proximity to one another so the climate is relatively similar at each

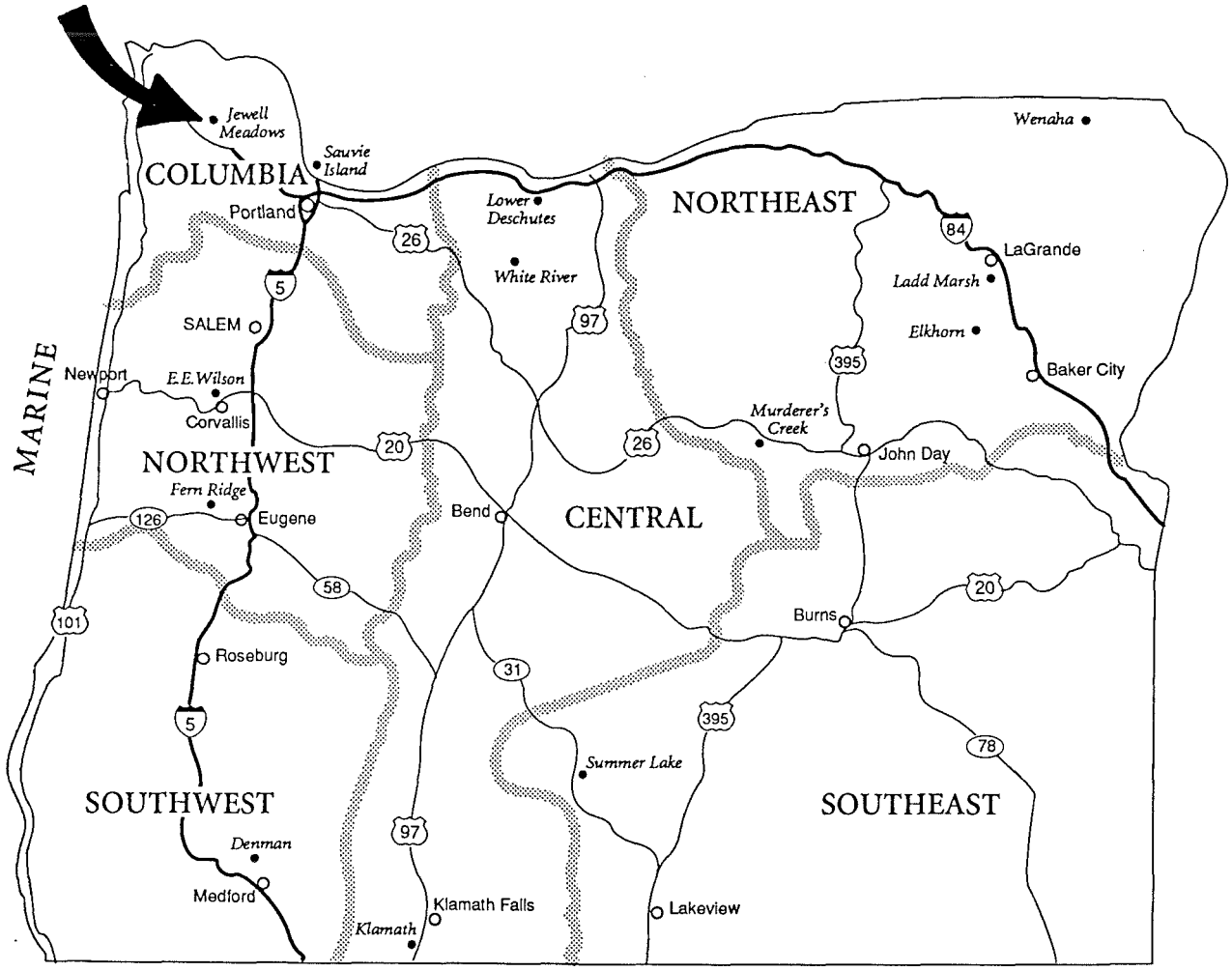

Figure 1. Location of Jewell Meadows Wildlife Area

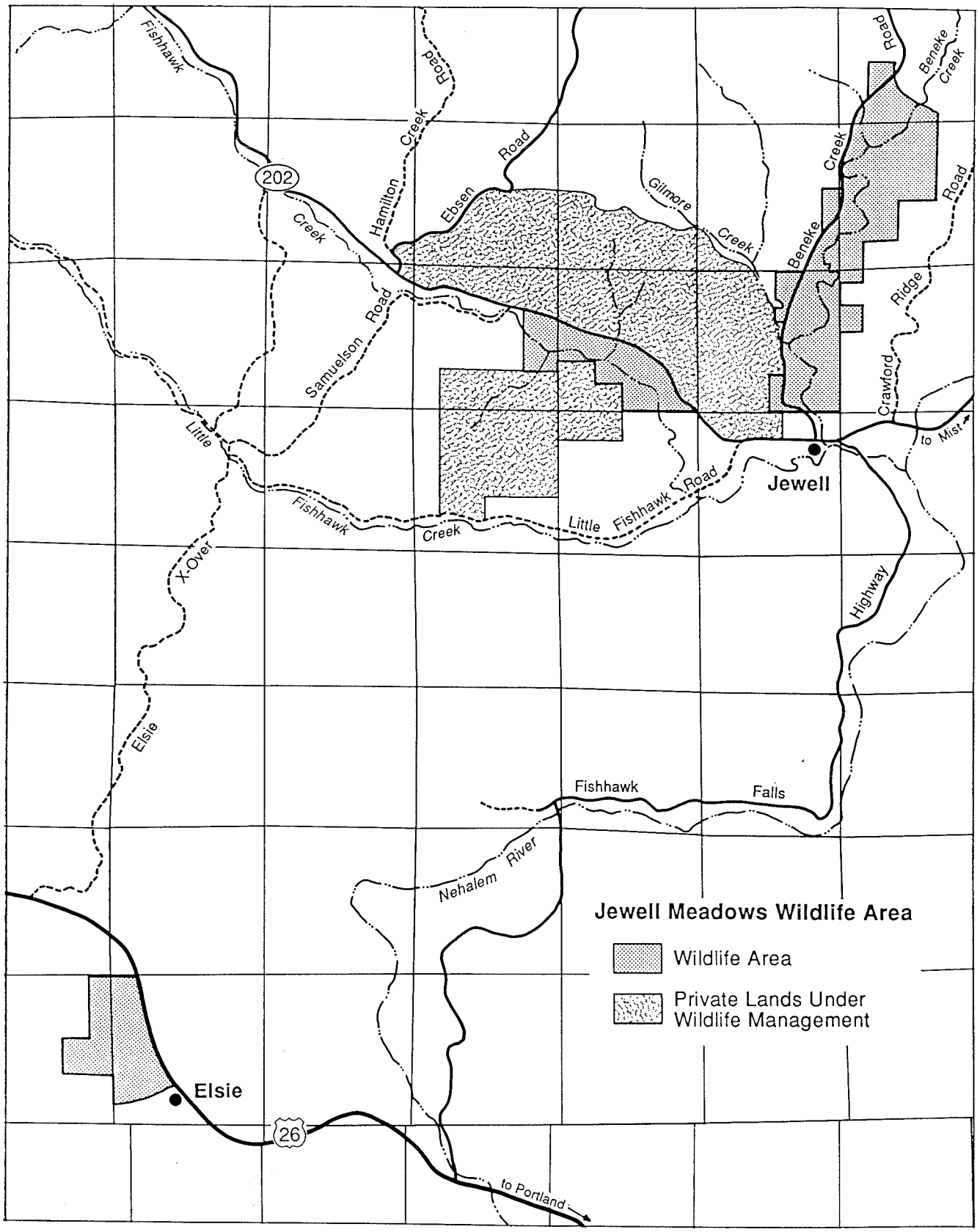

Figure 2. Detailed Map of Jewell Meadows Wildlife Area

parcel. The project areas receive between 70 and 100 inches of precipitation, annually, and have an average annual temperature of 60°F. Precipitation occurs in all months, but mostly from November through April, and is in the form of rain.

Topography and Soils

All three of the Jewell Meadows Wildlife Area tracts are similar in topography and soil types. These three areas are mostly open and level pasture land. Soil types consist of several silt-loam types as Nehalem, Ellertson, Elsie, Kirkendall, McNulty, Mues, Natal, Northrup, and Treharne. Approximately 4.5 miles of Class 1 stream flow through the three tracts.

Vegetation

The majority of the wildlife area is planted to permanent pasture of perennial ryegrass, orchardgrass, red and white clover, and lotus. The pastures are tilled and replanted on an 8-10 year rotation. All pastures are fertilized in the fall and those on the refuge are also fertilized in the spring. This is to enhance forage production and to produce a more nutritious winter forage. Annual forage removal is done during the summer and is accomplished by contract hayers.

The remainder of the area, mostly field edges, supports stands of red alder with mixed conifers. Conifers consist of hemlock, Douglas fir, and cedar, but are not economically significant at this time.

Water Rights

The Fishhawk Tract has two water rights of record for irrigation and the Beneke Tract has one water right on record. There are no water rights for the Humbug Tract.

Easements and Agreements

The Fishhawk Tract has one filed agreement with Gary Holmes allowing construction and operation of a well and water pipeline for domestic use along Fishhawk Creek and subsequent piping and wiring to his residence. A housing lease exists with John and Charles Olsen on the Fishhawk Tract allowing them to live at their house until the expiration or termination of their lease. Agreements are also filed with Oregon State Department of Forestry and Cavenham Forest Industries concerning nearly 2,000 acres of contract refuge.

Leases

We currently have one lease with Cavenham Forest Industries, Division of Hanson National Resources Company, for the use of 1,090 acres of their timber land as wildlife refuge. We are currently paying $3,000 per year for this lease. This lease allows us to control public access on lands surrounding the field area owned by the Department.

Developments/Facilities

Developments on the Fishhawk Tract include the headquarters building, two asphalt parking lots (one with restroom facilities with handicap access), and one graveled parking lot. We also have a public information kiosk low wattage radio station (530 AM) and numerous picnic tables available to the public with handicap access. The Area manager's residence, maintenance shop, and pole barn are also on the east end of the Fishhawk Tract. The hay and storage barn, double wide mobile home, and small pole barn are on the west end of the Fishhawk Track. Approximately 17 acres, including the headquarters building, manager's house, shop, and pole barn are enclosed by 6-foot high woven wire fence, accessible by cattle guards and gates. A total of 1-1/2 miles of electric fence were constructed along the east boundary of the Fishhawk Tract to keep elk from entering the neighboring agricultural lands.

The Beneke Tract developments include an older farmhouse with accompanying outbuildings, a pole barn for hay storage, one vehicle bridge, and one foot log. Developments on the Humbug Tract are limited to one hay barn.

Facilities on the Wildlife Area and a list of species found there are indicated in Appendix B.

Land Acquisition

1. Cavenham Forest Industries .... 360–1,000 acres
2. Olsen's ..... 17 acres
3. State Forestry ..... 55 acres
4. Nickel ..... 18 acres

The lands listed are currently in a refuge or lease agreement. They are listed in the priority of their importance to the Management Area. These lands are important for habitat value, such as hiding and thermal cover, plus allowing the resident wildlife populations protection from the public. Cavenham Forest Industries' land is the only land the Department is currently paying a lease fee on.

Resource Uses

The following are the current permitted uses allowed on the Jewell Wildlife Area and the estimated recreational days provided.

Activity	Days
Hunting[1]	
Big game	500
Waterfowl	10
Upland game	75
Trapping (by permit only)	10
Fishing	200
Photography/Viewing	98,000
Other (picnicking/reststop/ horseback riding)	2,500

[1] *Hunting is allowed on portions of the Beneke and Humbug areas only during authorized seasons, check regulations.*

Strategies to be Employed

Objective 1

Provide diverse habitat for up to 150 Roosevelt elk on the Fishhawk Tract, 250 elk on the Beneke Tract, and 50 elk on the Humbug Tract. At minimum, bull to cow ratios will be maintained at a level consistent with the surrounding big game management unit or the statewide elk management plan.

Issue #1: Division of adjacent private lands and encroachment of small parcel rural homesites places increasing pressure on the Wildlife Area to provide sufficient quality habitat to attract animals and help reduce potential for big game damage.

Action: Add to the present land base by purchasing any adjacent public or private land as it becomes available.

Issue #2: Adjoining land use practices (timber harvest) could detrimentally affect the agency's ability to meet long-term objectives for the Management Area.

Action: Additional land needs to be obtained from adjoining landowners or long-term agreements developed to maintain refuge, escape, and thermal cover. A larger land base for the Area would help assure that wildlife needs for habitat types would be available into the next 2 or more decades.

Issue #3: Natural forage may be limiting current elk population levels and options for transplanting elk to new locations may be limited in the future.

Action: Fertilize pastures in spring and fall as budget permits. Remove spring and summer vegetation in the form of grass hay by using contract hay cooperators. This will limit the amount of rank growth and allow for new fall green up of pastures to be used as winter forage. Renovate portions of pasture land, annually, to improve forage quality. Control population of elk by trapping, transplanting, and hunter harvest. Feed high quality alfalfa hay during high stress periods.

Objective 2

Provide year round viewing and educational opportunities to the public, on the Fishhawk Tract, by creating and maintaining public viewing and informational areas.

Issue #1: Unauthorized public use. People entering the closed area frighten elk off and limits the public viewing opportunities.

Action: Regulatory and informational signs are posted wherever they are needed. Informal patrolling of the management area is also done.

Issue #2: Maintenance and development of public use facilities.

Action: Daily checks for supplies, damage, or repairs are undertaken on the public restrooms and picnic and viewing areas. Trash is collected and disposed of. Parking areas are leveled and potholes are repaired as needed.

Issue #3: Dissemination of information to the public.
Action: Two informational pamphlets are available to the public that discuss management of the area and the elk. A kiosk has been constructed at the headquarters parking area with informational signs attached. A low wattage radio transmitter has been installed to provide information to the public over their car radios.

Issue #4: Elk are mobile animals and are not always where the public can see them.
Action: Supplemental feeding of high quality alfalfa hay during the winter causes the elk to be more visible for viewing. Elk can also be moved from viewing areas by supplemental feeding. Improved pastures also attract elk into the fields during the summer.

Issue #5: Availability of Department personnel to give tours and maintain Department facilities.
Action: Employees are available at all hours to respond to complaints, illegal activity, and to the general public. This is made possible by state-owned housing on the area. We plan to incorporate a volunteer host program on the area and this person(s) will help answer questions and respond to the public.

Issue #6: Public Education
Action: Assistance will be given to special interest groups, governmental agencies, and schools, with educational programs explaining activities on the area.

Objective 3

Maintain, or improve, 550 acres of pasture land, 525 acres of forest land, and 6 miles of stream riparian habitat for native wildlife annually.

Issue #1: Productivity of pastures declines with time.
Action: Fertilize fields annually and utilize 10-year renovation (approx.) rotation including lime application, fertilizer, and reseeding with pasture mix to improve forage productivity and quality.

Issue #2: The Wildlife Area soil is very acidic
Action: Pasture lands are limed whenever the pastures are plowed under and replanted.

Issue #3: Unwanted vegetation and noxious weeds.
Action: Removal of unwanted vegetation is an ongoing program on the Management Area. Noxious weeds are chemically, biologically, or physically controlled.

Issue #4: Loss of natural nesting cavities due to snag removal during timber harvest on adjoining lands.
Action: Nest box construction, placement, and maintenance is an ongoing program on the management area. Approximately 30 new nest boxes are constructed and distributed annually. Snags are protected on the Management Area. We will consider killing some trees on ODFW land to create some new snags.

Issue #5: Lack of shrub diversity and food plants for nongame wildlife.
Action: Shrub and tree plantings have been and will be used on the area to increase habitat diversity and provide food and cover for all wildlife species.

Issue #6: Lack of ponds on the area.
Action: Continue to enhance wetlands and create small ponds on the area with cover plantings around them to provide habitat for a variety of wildlife species. Work will be done as budget permits.

Issue #7: Lack of long-term plan to provide for future thermal and hiding cover on the area for elk and other wildlife.
Action: Develop a plan with help from State Forestry to convert portions of ageing

hardwood stands to conifers that will create mixed aged cover stands for the future. This will also increase the potential value of the area for all wildlife species and provide for future habitat diversity. EZ-Ject some trees with herbicide to create snags and release conifers.

Issue #8: In some cases, downed trees along streams cause erosion of surrounding banks and fields.

Action: Remove only trees that are creating a problem with field erosion. The remaining trees will be left to create pools and other types of habitat to enhance resident and anadromous fish populations, as well as wildlife populations that depend on riparian habitat. This work will be done after consulting with the district fish biologist.

Monitoring

Monitoring will be done on an annual basis by Jewell personnel as well as regional staff. We are also working under a CRMP that has local landowners, State Forestry, timber companies, SCS, and other interested parties involved. This plan may need to be changed as public concerns, budgets, and land changes occur in the next few years.

Elk are counted and the information recorded monthly when they are present. This information is to determine population status and if population levels are within objective for the areas.

Contact with the viewing public on almost a daily basis provides a sense of whether we are providing the type of viewing and educational opportunities desired. We will continue to make adjustments to this program and our facilities as needs arise and budget permits.

Soil samples are taken every couple of years to determine the type and amount of fertilizer needed to provide the best quality forage. We also monitor our fields to determine which ones are not producing the best quality forage. The haying cooperators also are required to inform us each year of the number of bales removed from our fields. This also helps us to determine how the fields are producing.

Streams are walked annually by Area personnel and the district fish biologists are consulted to determine if there is need to improve or maintain existing waterways.

Administrative Rules

Oregon's Wildlife Policy

ORS 496.012. It is the policy of the State of Oregon that Wildlife shall be managed to prevent serious depletion of any indigenous species and to provide the optimum recreational and aesthetic benefits for present and future generations of the citizens of this state. In furtherance of this policy, the commission shall implement the following coequal goals of wildlife management:

1. To maintain all species of wildlife at optimum levels.
2. To develop and manage the lands and waters of this state in a manner that will enhance the production and public enjoyment of wildlife.
3. To permit an orderly and equitable utilization of available wildlife.
4. To develop and maintain public access to the lands and waters of the state and the wildlife resources thereon.
5. To regulate wildlife populations and the public enjoyment of wildlife in a manner that is compatible with primary uses of the lands and waters of the state.
6. To provide optimum recreational benefits.

Jewell Meadows Wildlife Area

635-08-110. The Jewell Meadows Wildlife Area is open to public use unless otherwise excluded or restricted by the following rules:

1. Discharging firearms is prohibited except as authorized during game bird and game mammal seasons, or by permit.
2. Posted refuges and safety zones are closed to hunting and shooting.
3. Public access is prohibited on the Fishhawk Tract, from September 15 through April 30, except by permit.
4. Camping is prohibited except in areas designated for that use, or by permit.

5. Motor vehicles are prohibited except on parking areas and open areas.
6. Running of dogs is prohibited.
7. Leaving garbage and litter on the area is prohibited.
8. A permit is required to remove firewood, cut trees, dig or remove artifacts or archaeological specimens, minerals, sand, gravel, rock, or any other article, product, or material found on the area except for fish and wildlife taken as permitted by law.
9. State laws and local ordinances apply in this area; no person shall conduct himself in any manner that unreasonably deters, distracts, or hinders others in the peaceable enjoyment of the area.
10. Any person may be evicted from the Area when continued presence of that person could cause a threat to the rights and safety of others or property.

635-08-040. Forage Removal from Department Lands.

1. Forage REMOVAL from Department owned or managed lands by haying, grazing, or other means will be by permit only. Permits will be issued by the Department for a period not to exceed 5 years. Permits are not transferable.
2. Forage REMOVAL permits will be considered on a priority basis. First priority will be given to local grazing associations, adjoining landowners, adjacent landowners, and former permittees, not necessarily in that order.
3. Selection of first priority permittees will be made in accordance with the management objectives for the land.
4. Selection of second priority applicants will be based on the highest bidder.
5. Fees charged to first priority permittees will be similar to those fees charged on comparable forage in the vicinity. Fees charge to second priority permittees will be established through the competitive bid.
6. Management practices affecting forage removal will be established to protect the property and benefit wildlife resources.
7. A forage REMOVAL permit may be cancelled by the Director for failure to:
   (a) Follow all requirements set forth in the permit;
   (b) Pay fees required;
   (c) Follow forage removal practices established to protect the property and benefit wildlife resources.

State Authority: ORS Ch. 496.012; Hist.: FWC 42-1978, f. & ef. 8-29-78; FWC 62-1978, f. & ef. 12-20-80; Renumbered from 635-15-040; FWC 24-1982, f. & ef. 4-5-82.

Wildlife Area Review Committee Recommendations for the Jewell Meadows Wildlife Area

The following lists the 16 points outlined by the Wildlife Area Review Committee and their relationship to the Jewell Wildlife Area. It also will address the specific recommendations made by the review committee toward the Jewell Wildlife Area. The 16 points and the committee recommendations will be in bold type with the responses in normal print.

1. **Complete long-range (10 year) management plan for each area, which incorporates a coordinated resource management plan process that allows periodic public review and evaluation.**
   The current draft of the plan is in compliance with the above recommendation. While this plan calls for a 10-yar period, it is likely to be modified as time and conditions warrant. A CRMP plan was used to formulate most of this plan, and all members of our CRMP group were asked to comment.

2. **Goals and objectives for each area should be specific and measurable with a greater emphasis on all wildlife species.**
   The previous plan had general objectives. This plan decreases the number of objectives, while at the same time making them more specific and measurable. Goals were also added to help address the objectives and other wildlife needs.

3. **Land management activities, such as grazing, timber harvest, and farming should only be implemented for the benefit of wildlife and to meet wildlife objectives. These management practices should meet or exceed ODFW standards and guidelines recommended for other public agencies.**
   The only practice mentioned above, currently used at Jewell would be farming activity. This management practice is designed to benefit wildlife.
   Farming practices include soil tillage and seeding to provide the best possible grazing forage. Summer haying is done to provide fall and winter green feed for wintering big game.

4. **Budget for and implement educational, interpretive, and user friendly programs. Opportunity exists on all areas for increased public awareness activities.**
   A large amount of the Jewell area's budget has been used for public information the past 2 years. We continue to budget for and expand on our public use areas and programs. We have installed a low wattage radio station for visitor information and directions. We have installed signs along the highways and at a nearby rest area directing the public to the area. We have informational pamphlets available to the public. We have picnic areas, viewing areas, improved parking, and public restrooms available to the public that are handicap accessible. We have personnel available to answer questions and give tours to the public, school groups, or other interested parties.

5. **Develop a Wildlife Division land acquisition plan and process to identify, prioritize, and recommend potential land purchases.**
   Not the responsibility of Jewell Wildlife Area. This plan does list, in priority, land that should be acquired for the Jewell Wildlife Area.

6. **Establish a positive sign program for identification of areas and their programs that is consistent with other fixed stations.**
   The sign program used at Jewell was recommended and designed by the ODFW Information and Education Section.

7. **Develop a statewide waterfowl plan that integrates goals of the North American Waterfowl plan and defines quantitative objectives for those wildlife areas with emphasis on waterfowl.**
   Not applicable to Jewell.

8. **Budget and allocate resources through the Fish Division for fisheries work currently subsidized by federal wildlife dollars. Priority areas are Sauvie Island, White River, Denman, and Murderer's Creek.**
   Not applicable to Jewell.

9. **Replace sharecropping, where applicable with contract farming to better utilize the land base for wildlife benefits.**
   Sharecropping is not used at Jewell. Our forage is removed by contract cooperators.

10. **Explore and develop new funding sources for the on-the-ground habitat projects and land acquisitions.**
    We have, in the past and will in the future, use dollars provided by sportsman's groups and conservation groups to fund needed projects on the Jewell Wildlife Area. We also use volunteers extensively to complete many projects.

11. **Evaluate the cost benefit and applicability of the current parking fee program at Sauvie Island for expansion to other areas.**
    Not applicable to Jewell at this time. We do need to think about other ways to get funding from the nonconsumptive viewers.

12. **Encourage more use of volunteers and the host program on all areas.**
    We use volunteers to complete many projects. We have volunteers that range from young school children to adult groups and individuals. We are currently looking into a host site. The region also has a volunteer coordinator who helps us recruit volunteers for our projects.

13. **Improve coordination between regional habitat and wildlife area personnel to offset work force needs and reduce expenses.**
    The crew at Jewell is the regional habitat work force.

14. **In some cases, regions need to better define the working relationship between the district biologist and the area manager. In general, the committee recommends that the area manager coordinate, develop, and recommend land management decisions, while the district biologist does the same for biological and harvest activities.**
    To be completed by regional administration. We have a good working relationship with the district biologist and we each understand the other's responsibilities.

15. **In light of budget reductions, the Division should work closely with regions before changing current operating plans.**
    This is the responsibility of the Wildlife Division and the region, not Jewell Wildlife Area.

16. **Develop a statewide policy addressing the use of dogs on wildlife areas.**
    This is the responsibility of the Wildlife Division. At Jewell we have an OAR that addresses the use of dogs.

Wildlife Area Review Specific Recommendations for Jewell

- **Quantify and combine some objectives.**
  This was completed in the new plan.

- **Additional land needs to be obtained from adjoining private land companies or long-term agreements developed to maintain refuge, escape, and thermal cover.**
  These items are addressed in the plan. We are seeking ways to acquire property, and have a 3-year lease on some of the property surrounding the refuge.

- **Fertilize in the spring and fall.**
  This is currently being done. With further budget cuts we may only be able to fertilize once a year in the fall.

- **Control population of elk by trapping, transplanting, and hunter harvest as needed. Supplemental feeding of high quality alfalfa hay used during high stress periods.**
  This is currently being done. Feeding also helps to keep the elk off the neighboring landowners.

Concern may arise in the future if we are limited to transplant relocations.

- **Provide an informational kiosk to dispense information.**
  This project has been completed and is located at the main parking area.

- **Provide a low wattage information radio with signs to inform the visiting public.**
  These projects have also been installed and completed.

- **General committee comments.**
  The area is fullfilling its initial objectives—reducing damage to private lands and providing viewing opportunities.

Public Involvement in the Plan

This plan was revised using the original Jewell Wildlife Area Plan, CRMP Plan, and direction from the Wildlife Area Review.

The plan was completed in a first draft form and sent to all the divisions, the district, and the region. Their comments were added to the first draft.

The second draft was then completed and copies were sent to all major landowners and sportsman and conservation groups near our project area and other interested parties. We then, with the help of I&E sent out summaries of the plan to the public. We asked for comments to the plan to be sent in written form and scheduled a public open house at Jewell for comment as well.

Notices were put in the local papers concerning the plan and the comment periods, as well as the date for the public open house at Jewell.

We then took comments from the public, both written and statements made at the open house, and incorporated those that fit with our objectives into the final plan.

Comments or concerns that did not fit our objectives were addressed at the regional level.

The plan you now have is the final draft.

Appendix A

Clatsop County Zone Plan

Fish and Wildlife

The Nehalem River and many other streams and creeks provide excellent spawning habitats for anadromous fish. Anadromous fish such as salmon or steelhead hatch in upland freshwater streams, migrate to sea to spend a major part of their life, and return to the freshwater upland stream to spawn a new generation of fish. Important to these streams is the maintenance of water quality and low turbidity levels.

Grouse, mountain quail and pigeons are the most numerous and most hunted upland game birds in the County. While they are a product of the vast areas in forest lands, not a great deal is known about managing habitats to increase populations (none of the birds or animals within this planning area are considered endangered species at the present time). The Southeast Environmental Plan and the Fish and Wildlife Habitat Protection Plan for Clatsop County contains additional information.

With reference to big game, the Oregon Department of Fish and Wildlife classifies areas within the County as Major Big Game Range, Peripheral Big Game Range and Excluded Range. For a discussion on Big Game and other fish and wildlife resources see the Open Space, Scenic and Historic Areas and Natural Resources Element, Goal 5.*

Fish and Wildlife Policy

1. Wildlife refuges:**

Existing wildlife refuges which are owned/leased and managed by the Oregon Department of Fish and Wildlife (ODFW) or by the United States Fish and Wildlife Service (USFWS) shall be designated Conservation-Other Resource and zoned Open Space, Parks and Recreation (OPR).

Proposed wildlife management areas which are managed and either owned or leased by the Oregon Department of Fish and Wildlife (ODFW) located in areas designated Conservation Forest or in other lowland areas under any plan designation shall be reviewed by the County for compliance with approval standards listed below. Such hearings shall be conducted according to a Type IV procedure at a time and place convenient to residents of the affected planning area. ODFW shall provide an evaluation of economic, social, environmental and energy consequences of the proposal and *** information sufficient to support findings with respect to the following approval criteria:

1. Identification of the need for the proposed new wildlife management area. "Need" means specific problems or conflicts that will be resolved or specific ODFW objectives that will be achieved by establishing the proposed area.

2. Alternative lands and management actions available to the ODFW, and an analysis of why those alternatives or management actions will not resolve identified problems or achieve objectives.

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* Amended 83-17, dated September 30, 1983.

** Amended 84-9, dated May 23, 1984.

*** Amended 84-10, dated June 27, 1984.

Jewell Meadows Acquisitions and Easements

PROJECT: 04355 NAME: Jewell Meadows Wildlife Area

LOCATION: TOWNSHIP 5 & 6N RANGE 7W SECTION 1, 2, 3, 4, 10, 25, 35, 36

Prop.	Date	ACRES			Cost/Fund		Principal
		Fee	Easement	Agreement			
04355	6/19/69	183.10			$70,000	L&W	from Glenwood F. Engbretson
04356	2/04/71	38.00			$18,000	L&W	from Olson
04357	2/04/71	72.00			$40,000	L&W	from Soderback
04358	5/07/71	1.90			$18,500	L&W	from Espey
	4/06/71	Quitclaim			$1	State	from Enbretson
04359	7/24/73	672.96			$214,065	L&W	from Baskens and Nickel
	7/25/73			pipeline			to Baskens
	7/18/73	Option					from Nickel
	7/24/73	Option					from Baskens
	8/24/73	Correction					from Baskens and Nickel
	5/17/74		pipeline				to Oregon State Forestry
	1/10/75		pipeline				to Nickel
	6/30/75		road				to Oregon State Forestry
	4/29/80			oil & gas			to Snyder Oil Company
	1/11/80			water			to Gary Holmes
	4/08/83			House lease			with John and Charles Olson

PROJECT: 04392 NAME: Humbug Creek Wildlife Area

LOCATION: TOWNSHIP 5N RANGE 7W, 8W SECTION 31, 36

Prop.	Date	ACRES			Cost/Fund		Principal
		Fee	Easement	Agreement			
04392	9/29/76	155.10			$150,000	L&W	from Wilson
	9/29/76		1.00		$1	State	from Wilson
	11/19/76		pipeline		($1)		to Wilson

Appendix B

Facilities

	Fishhawk	Beneke	Humbug
Viewing areas	3 (improved)	Along road	1 (unimproved)
Picnic areas	3–8 tables	0	0
Public restrooms	1 (handicap)	0	0
Buildings	10	4	1
Fences	1 mile woven wire	0.5 mile	0.5 mile
	1.5 mile electric	1.5 mile	0.5 mile
Bridges	0	1 vehicle 1 foot	0
Creek crossings	2	6	4
Access permitted	No public access on the refuge	Yes with restrictions	Yes with restrictions
Project area	295 acres	673 acres	155 acres
Streams	1.5 miles	3 miles	1.5 miles
Orchards	2 maintained	1 maintained	0
Ponds	0	1 acre	2 acre
Elevation	500–700 feet	500–700 feet	500 feet

Species List

The following list of wildlife species is found on, or around, the Jewell Wildlife Area. Many of them are year round residents, while some are here only seasonally. If their actual numbers are known, a number is shown. If numbers are not, they will be represented by L-low, M-medium, H-high to indicate their relative abundance. Any of the following species on a sensitive, threatened, or endangered list is also indicated. T&E species, on or near, the area include the northern spotted owl and the bald eagle. Currently, three spotted owl activity centers are located on state lands adjoining the Management Area. Our small timber holdings may be of some benefit to these owls. The bald eagles are migratory and arrive here in late winter and early spring. Road kill or winter kill wildlife carcasses and spawned fish carcasses are provided as a food source for the wintering eagles.

Mammals

Opossum	M
Long-tailed shrew	L
Dusky shrew	M
Trowbridge shrew	L
Vagrant shrew	H
Northern water shrew	L
Shrew mole	L
Townsend mole	H
Coast mole	H
Little brown myotis	H
Long-eared myotis	M
Long-legged myotis	M
California myotis	L
Silver-haired bat	L
Big brown bat	H
Hoary bat	L
Western big-eared bat	L *(S)*
Snowshoe hare	H
Brush rabbit	H
Mountain beaver	H
Townsend chipmunk	H
Beechy ground squirrel	H
Chickaree	H
Flying squirrel	M
Beaver	H
White-footed deer mouse	H
Bushy-tailed woodrat	H
California redbacked vole	M
White-footed vole	L *(S)*
Red tree vole	L
Townsend vole	H
Long-tailed vole	M
Oregon vole	M
Muskrat	H
Black rat	L
Norway rat	M
House mouse	M
Pacific jumping mouse	H
Nutria	H
Coyote	H
Red fox	L
Black bear	M
Raccoon	H
Short-tailed weasel	H
Long-tailed weasel	H
Mink	H
Spotted skunk	M
Stripped skunk	M
River otter	M
Mountain lion	L
Bobcat	H
Roosevelt elk	200-500
Black-tailed deer	M

Herptiles

Northwestern salamander	L
Long-toed salamander	H
Cope giant salamander	L *(S)*
Pacific giant salamander	L
Olympic salamander	L
Oregon salamander (Ensatina)	L
Dunn salamander	M
Western red-back salamander	M
Rough-skinned newt	H
Western toad	L
Pacific tree frog	H
Tailed frog	L
Red-legged frog	L *(S)*
Northern alligator lizard	H
Common garter snake	H
Northwestern garter snake	H

Fish

Resident cutthroat trout	H
Sea-run cutthroat trout	M
Steelhead	M
Chinook Salmon	M
Coho salmon	L
Sculpin	H
Crayfish	H

Birds

Common loon	L
Pied-billed grebe	L
Eared grebe	L
Horned grebe	L
Double-crested cormorant	L
Great blue heron	H
Great basin Canada goose	L
Dusky Canada goose	L
Tavener Canada goose	L
White-fronted goose	L
Mallard	H
Pintail	M
Green-winged teal	M
Cinnamon teal	L
American wigeon	L
Wood duck	H
Hooded merganser	H
Common merganser	H
Turkey vulture	H
Goshawk	M
Sharp-shinned hawk	M
Cooper's hawk	M
Red-tailed hawk	H
Rough-legged hawk	L
Ferruginous hawk	L
Marsh hawk	M
Bald eagle	L *(T)*
Osprey	L
Merlin	L
American kestrel	L
Blue grouse	L
Ruffed grouse	H
California quail	H
Mountain quail	L
American coot	L
Killdeer	M
Common snipe	H
Spotted sandpiper	L
Short-billed dowitcher	L
Glaucous gull	L
California gull	L
Ring-billed gull	L
Mew gull	L
Band-tailed pigeon	H
Rock dove	L
Mourning dove	L
Barn owl	H
Screech owl	H
Great horned owl	H
Pygmy owl	M
Barred owl	L
Spotted owl	L *(E)*
Saw-whet owl	L
Common nighthawk	L
Vaux's swift	M
Anna's hummingbird	L
Rufous hummingbird	H
Allen's hummingbird	L
Belted kingfisher	H
Northern flicker	H
Pileated woodpecker	L *(S)*
Yellow-bellied sapsucker	H
Hairy woodpecker	H
Downy woodpecker	H
Western kingbird	L
Western flycatcher	L
Willow flycatcher	L
Olive-sided flycatcher	M
Violet-green swallow	H
Tree swallow	H
Barn swallow	H
Cliff swallow	H
Steller's jay	H
Scrub jay	M
Common raven	H
Common crow	H
Black-capped chickadee	H
Chestnut-backed chickadee	M
Bushtit	M
White-breasted nuthatch	M
Red-breasted nuthatch	M
Brown creeper	L
Dipper	L
House wren	L
Winter wren	H
Bewick's wren	M
American robin	H
Varied thrush	H
Hermit thrush	L
Swainson's thrush	L
Western bluebird	L
Mountain bluebird	L
Townsend's solitaire	L
Golden-crowned kinglet	L
Ruby-crowned kinglet	L
Cedar waxwing	L
Starling	H
Solitary vireo	L
Hutton's vireo	L
Warbling vireo	M
Orange-crowned warbler	M
Yellow warbler	M
Yellow-rumped warbler	M
MacGillivray's warbler	M

Common yellowthroat	L
Wilson's warbler	M
House sparrow	H
Red-winged blackbird	M
Brewer's blackbird	M
Brown-legged cowbird	M
Western tanager	L
Black-headed grosbeak	L
Evening grosbeak	H
Purple finch	H
Cassin's finch	L
House finch	H
Pine siskin	H
American goldfinch	H
Lesser goldfinch	H
Red crossbills	L
Rufous-sided towhee	H
Savannah sparrow	L
Vesper sparrow	L
Dark-eyed junco	H
Chipping sparrow	L
White-crowned sparrow	M
Golden-crowned sparrow	M
Fox sparrow	L
Lincoln's sparrow	L
Song sparrow	H
Starling	H

(S) = Sensitive; *(T)* = Threatened; *(E)* = Endangered